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Andrew Gervaz

Dated 19 February 2003

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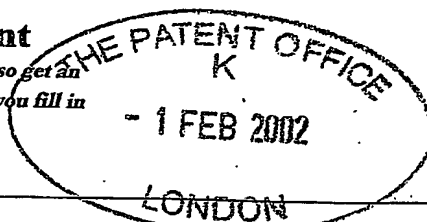


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Request for grant of a patent

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1. Your reference

FGJB/JLB/36356

2. Patent application number

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3. Full name, address and postcode of the or of each applicant (underline all surnames)

Synerception Ltd
Unit 6, Bosinney Court
124/6 Stockbridge Road
Winchester
Hampshire SO22 6RN

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

United Kingdom

823766100

4. Title of the invention

MEDICAL CLOTHING

5. Name of your agent (if you have one)

fJ Cleveland

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

40-43 Chancery Lane
London
WC2A 1JQ

Patents ADP number (if you know it)

07368855001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

Yes

a) any applicant named in part 3 is not an inventor, or

b) there is an inventor who is not named as an applicant, or

c) any named applicant is a corporate body.

See note (d))

Medical Clothing

The present invention relates to the field of medical equipment and relates particularly to clothing for hospital patients who may undergo physical examination or surgical procedures.

It is normal for patients in hospital to be provided with clothing to wear in bed. This may be a night dress or conventional pyjamas, but in situations where examination of a patient is required, or where surgery may be carried out on the patient, it is usual to provide the patient with a smock which permits easy access to the patient's body. Typical smocks are made from a single piece of material with openings for arms, and an open back portion which may be provided with ties to secure the smock to the patient and prevent the smock from opening accidentally.

15 A problem with the above smock is that it leaves the back and posterior of the patient somewhat exposed, because of a gap between the tied open sides of the smock. To maintain the modesty and self-respect of the patient, a patient in transit between areas of a hospital may be reluctant to walk, knowing that their body may be exposed to the public from the rear. It is therefore normal practice to use a wheelchair for the patient, which prevents unwanted exposure

during transit. This is a significant waste of resources, often requiring a hospital porter who could be better employed undertaking other tasks.

5 A further problem is that a patient maybe provided with a dressing gown or equivalent garment to protect the patient's privacy. This can expose the patient to the risk of cross infection from a previous wearer of the same dressing gown.

10 Another problem with the described smocks is that the patient requires external help to put on and take off the smock as the ties cannot readily be manipulated behind the patient's back. Hence even relatively able patients require help which, again, is a drain on hospital personnel resources.

15 The present invention seeks to provide medical clothing which allows easy access to the patient's body for the purpose of examination, treatment or surgery but which also provides coverage akin to normal clothing so that the patient does not feel inhibited or exposed. The clothing allows simple access to most of the patient's body even when the patient is anaesthetised with the minimal loss of the patient's modesty and the minimum of movement by
20 medical staff.

According to one aspect of the present invention there is provided medical clothing for a patient, comprising a gown formed with two arm apertures and an open front portion, which is arranged to close around the patient's torso by overlapping of respective sides thereof, and means for fastening the respective
5 sides in an overlapped position.

The gown is intended and configured to be front fastening, which permits self-dressing and undressing by the patient. This is reassuring for a patient as it is the normal arrangement for non-medical clothing. Rear tying, as in the case
10 of known medical gowns, can be distressing for vulnerable patients who may be in an unfamiliar environment and suffering from disorientation.

Preferably, each arm aperture is provided with releasable fastening means for reducing or enlarging the extent of the arm aperture. Beneficially, the arm
15 aperture fastening means may be located in an under-arm portion of the arm aperture. This facilitates sliding of a bent arm through the aperture.

The fastening means may comprise two or more releasable fasteners for each arm aperture, thereby providing three or more aperture widths according to
20 whether none, one or two more of the fasteners are fastened or released.

The arm aperture releasable fastening means may comprise one or more Velcro-type tabs. A Velcro type fastener is a fastener which comprises two detachable faces, one face with a fibrous down and another face provided with a multitude of fibrous down-engaging hooks. The down and hooks are typically
5 formed from plastics material.

The means for overlapped fastening may be a full or partial waist band. A full waist band would extend around the waist of the patient, whereas a partial
waistband would typically comprise two bands, each attached at one end to a
10 respective waist region of the gown, and having a free end available for tying to the free end of the other band, without extending completely around the gown.

According to another aspect of the invention there is provided medical clothing
15 for the lower body of a patient, which clothing is configured as a pair of trousers having a waist portion and two leg portions, which trousers are provided with a releasably fastenable access cut which extends from the waist portion to an end cuff of one leg portion, thereby permitting access to the covered portion of the patient's groin and corresponding leg by unfastening of
20 the cut.

In a preferred aspect there is a second releasably fastenable access cut which extends from the waist portion to an end portion of the other leg portion of the trousers, thereby permitting access to the covered portion of the patient's groin and corresponding other leg through the cut by unfastening of the second cut.

- 5 Thus either the right or left leg may be exposed or both together without moving the patient.

The access cut or cuts may be located on a front region of the trousers.

- 10 Preferably the first and second cuts are disposed side by side to define an access panel which extends from a front region of the waist band to a gusset of the trousers. The cuts are preferably symmetrically aligned about the gusset.

- An upper waist portion of the panel may be elasticated (for example by an
15 elasticated tuck or ruffle), thereby providing the fastened trousers with an elasticated waist band.

- In a preferred arrangement a tie is threaded through a waist portion of the trousers, thereby permitting comfortable tightening of the waist of the trousers
20 to the size of the patient.

The trousers may be configured in leg length as a pair of short trousers, which may be "long shorts" intended to finish between the mid-thigh and knees of the patient.

- 5 The cut or cuts are preferably each rendered releasably fastenable by means of at least one Velcro type fastener. In one embodiment the fastener is elongate and extends substantially the entire length of the cut.

- 10 In certain circumstances the gown may be worn without the shorts. Further the gown may be extended in length to allow it to be used as a long gown extending to the patient's knees.

- 15 The clothing described hereinbefore may be formed from a breathable polymer felt fabric material. An example of a suitable material is an ultra-soft polyethylene fabric marketed under the trade name DALTEX Medical. The material provides splash protection and is air breathable. The fabric may be sterilised, for example by ethylene oxide or by gamma-source radiation.

- 20 The clothing is preferably packaged in an hermetically sealed sterile enclosure.

The clothing may be provided with instructions or labelling indicating disposal

after use. In certain embodiments however the clothing may be intended for washing and re-use. An example of the reusable material will be a fabric comprising polyester and cotton able to withstand frequent washing at high temperatures and sterilisation prior to re-use as described above.

5

According to another aspect of the invention there is provided a medical clothing combination comprising a packaged gown as previously described and pair of trousers as previously described.

10 Following is a description by way of example only and with reference to the drawings of products in which the present invention is embodied.

In the drawings:-

Figure 1 is a front view of a patient wearing a gown and shorts according to
15 the present invention.

Figure 2 is a front side view of the gown.

Figures 3 and 4 are front side views of a patient wearing a gown, showing
20 manipulation of her arm to remove one side of the gown for chest area access.

Figure 5 shows a patient with an arm withdrawn from a sleeve and one side of the thorax exposed.

Figure 6 is a front view of a pair of shorts according to the present invention.

5

Figures 7A, 7B and 7C are a series of front views of the shorts, showing opening of one leg.

Figures 8A, 8B and 8C are a series of front views showing opening of both
10 legs.

In figure 1 a gown is shown as 10 and a pair of shorts 50. A patient 1 is shown wearing the gown and shorts. The gown has two sleeves 11,12 which finish just above elbow length. The sleeves are very loosely fitting to allow
15 easy access to the arm for fitting or removal of the gown. The body of the gown has an opening front, with overlapping leaves 13,14. The leaves are tied together by waist ties 15,16 which are attached in two places to the gown at above the hips. The free ends of the ties are loosely knotted.

20 The shorts have two leg portions 51,52 which finish just above the knees of the patient at a mid-thigh region.

Gown

Figure 2 shows the gown only, viewed from the front side with the ties undone.

A back portion 9 of the gown is visible. Sleeve 12 is shown with an access cut 19 open. Four press Velcro (trade name) - hook pad and felt pad - pairs 20, 21, 5 22 and 23 allow fastening and release of the cut, thereby permitting access to the torso of the patient, and aiding unsleeving of the patient's arm and shoulder from the gown. The other sleeve 11 is shown with the access cut closed by engagement of the Velcro pads. Although Velcro studs are shown in the figure, 10 other releasable-fastening means may be used; for example press studs, hooks or buttons. The extent of the opening of the cut may be varied according to whether all or some of the pads are engaged or disengaged.

A further Velcro pad pair 17,18 is located on respective leaves of an upper portion of the gown. One pad 17 is on an outer surface of one leaf of the 15 gown, while the other 18 is on an inner surface of the other leaf. The upper leaf is tailored to provide a substantial overlap of leaves from the upper pad engagement down to the lower end regions of the gown (as evident from the dashed line in figure 1).

20 Figure 3 shows an incapacitated patient wearing the gown, with the access cut of the sleeve 12 open. The patient's elbow has been elevated. In figure 4 the

arm is shown having been manoeuvred so that the hand and wrist is returned inside the sleeve through the cut 19. The gown may now be opened to reveal the entire upper side of the patient's torso, shoulder and arm.

- 5 Figure 5 shows an exposed side 22 of the patient after unsleeving of sleeve 11. The exposed area of the patient is now accessible for treatment, examination or surgery.

Shorts

- 10 Figure 6 is a front view of the short trousers 50. The shorts have two leg portions 51 and 52. There is a waist band 53 with a drawstring 59. Two generally vertical cuts (not visible) along the front side of each leg portion are held Velcro strips 54, 55. The cuts and strips extend between the waist band at one end to the leg portion cuffs at the other end.

15

The sequence for opening one of the cuts is shown in figures 7A, 7B and 7C. Velcro strip 55 is undone at the waist region (fig 7B) and drawn apart as at fig 7C to permit exposure of a patients groin and upper thigh.

- 20 Both strips 55 and 54 may be undone as shown in the sequence in figures 8A, 8B, 8C so that a panel 57 defined between the two strips is drawn down. The

panel then remains attached to the shorts at a gusset 58. In this way the front hip, waist and groin and both upper thigh of the patient may be exposed for treatment of examination.

- 5 The present invention provides clothing which maintains the modesty of the patient and permits selective exposure of certain local regions of the body. Because the patient is well covered by the clothes, he or she may walk without feeling exposed or embarrassed.

Claims

1. Medical clothing for a patient, comprising a gown formed with two arm
apertures and an open front portion which defines two leaves, which gown is
5 arranged to close around the patient's torso by overlapping of the respective
leaves, and means for fastening the respective sides in an overlapped position.

2. Clothing as claimed in claim 1 wherein the fastening means comprises one
or more Velcro pad pairs.

10

3. Clothing as claimed in claim 2 wherein one pad of a pair is carried on an outer
surface of one leaf and the corresponding other pad of the pair is carried on an
inner surface of the other leaf, and wherein the said one pad is spaced apart
from a side edge of the leaf, thereby to provide an overlap of leaves when the
15 pads are engaged.

15

4. Clothing as claimed in any preceding claim wherein each arm aperture is
provided with releasable fastening means for reducing or enlarging the extent
of the arm aperture.

20

5. Clothing as claimed in claim 4 wherein the arm aperture fastening means is

located in an under-arm portion of the arm aperture.

6. Clothing as claimed in claim 4 or claim 5 wherein the fastening means comprises two or more releasable fasteners for each arm aperture, thereby
5 providing three or more aperture widths according to whether none, one or two more of the fasteners are fastened or released.

7. Clothing as claimed in any of claims 4 to 6 wherein the releasable fastening means comprises one or more Velcro-type pads.

10

8. Clothing as claimed in any preceding claim wherein the means for overlapped fastening comprises, or further comprises a waist band.

9. Medical clothing for the lower body of a patient, which clothing is
15 configured as a pair of trousers having a waist portion and two leg portions, which trousers are provided with a releasably fastenable access cut which extends from the waist portion to an end the end of one leg portion, thereby permitting access to the covered portion of the patient's abdomen and corresponding leg by unfastening of the cut.

20

10. Clothing as claimed in claim 9 wherein there is a second releasably

fastenable access cut which extends from the waist portion to an end portion of the other leg portion of the trousers, thereby permitting access to the covered portion of the patient's abdomen and corresponding other leg through the cut by unfastening of the second cut.

5

11. Clothing as claimed in claim 9 or claim 10 wherein the access cut or cuts are located on a front region of the trousers.

12. Clothing as claimed in claim 11 wherein the first and second cuts are disposed side by side to define an access panel which extends from a front region of the waist band to a gusset of the trousers.

13. Clothing as claimed in claim 10 wherein an upper waist portion of the panel is provided with a waist tie, permitting tightening of the waist band to suit a patient's waist size.

14. Clothing as claimed in any of claims 9 to 13 and configured in leg length as a pair of short trousers.

15. Clothing as claimed in any of claims 9 to 14 wherein the cut or cuts are each rendered releasably fastenable by means of at least one Velcro type

fastener.

16. Clothing as claimed in claim 13 wherein the fastener is elongate and extends substantially the entire length of the cut.

5

17. Clothing as claimed in any preceding claim and formed from a breathable polymer felt material.

18. Clothing as claimed in any preceding claim and packaged in an
10 hermetically sealed sterile enclosure.

19. Clothing as claimed in any preceding claim and provided with instructions or labelling indicating disposal after use.

15 20. A medical clothing combination comprising a packaged gown as previously claimed and pair of trousers as previously claimed.

Abstract

The disclosure relates to the field of medical equipment and relates particularly to clothing for hospital patients who may undergo physical examination or surgical procedures. The present invention seeks to provide medical clothing which allows easy access to the patient's body for the purpose of examination, treatment or surgery but which also provides coverage akin to normal clothing so that the patient does not feel inhibited or exposed. According to one aspect of the present invention there is provided medical clothing for a patient, comprising a gown formed with two arm apertures and an open front portion, which is arranged to close around the patient's torso by overlapping of respective sides thereof, and means for fastening the respective sides in an overlapped position. Preferably, each arm aperture is provided with releasable fastening means for reducing or enlarging the extent of the arm aperture. Beneficially, the arm aperture fastening means may be located in an under-arm portion of the arm aperture. According to another aspect of the invention there is provided medical clothing for the lower body of a patient, which clothing is configured as a pair of trousers having a waist portion and two leg portions, which trousers are provided with a releasably fastenable access cut which extends from the waist portion to an end cuff of one leg portion, thereby permitting access to the covered portion of the patient's groin and

corresponding leg by unfastening of the cut.

Fig 1

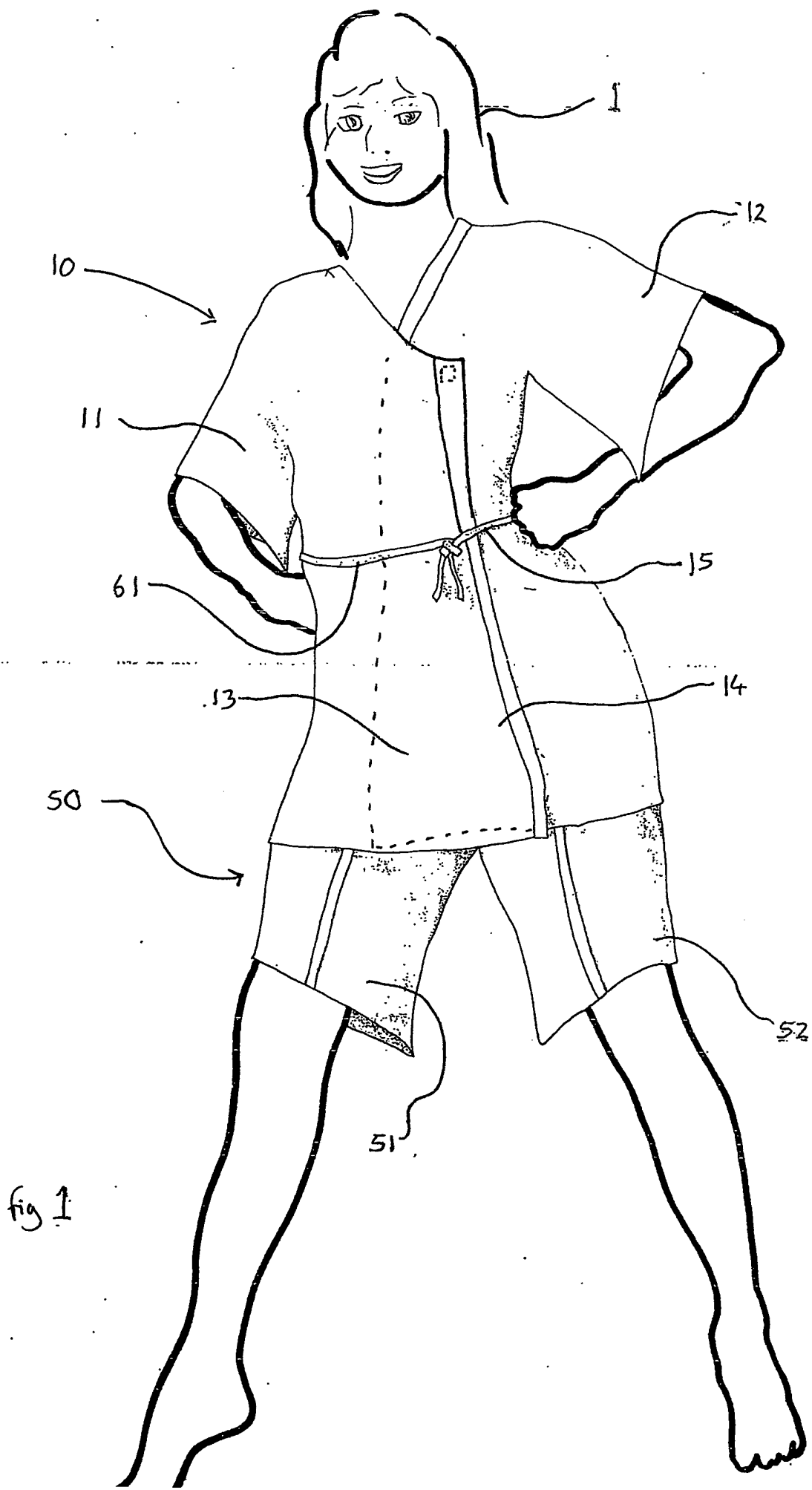
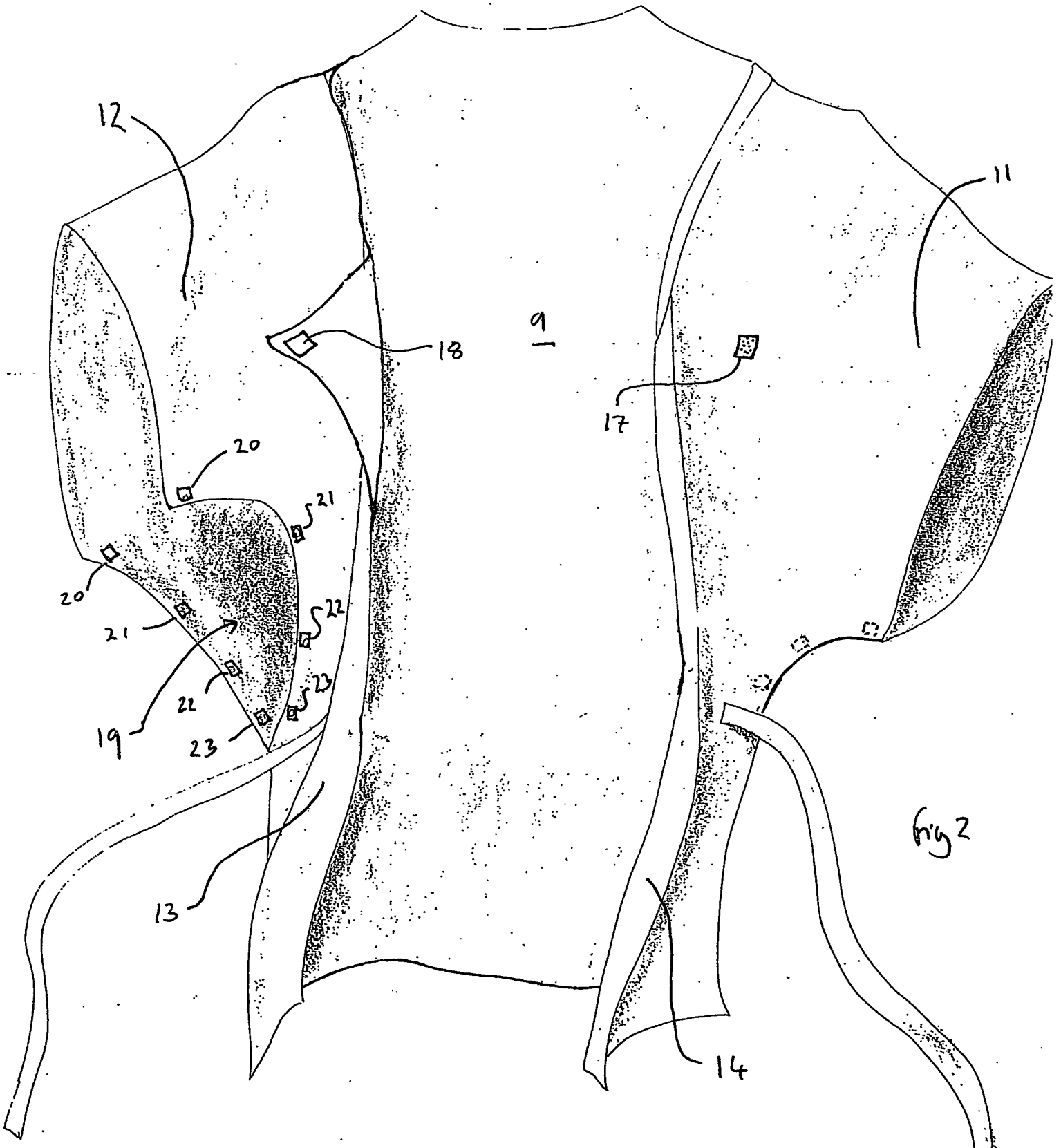


fig 1

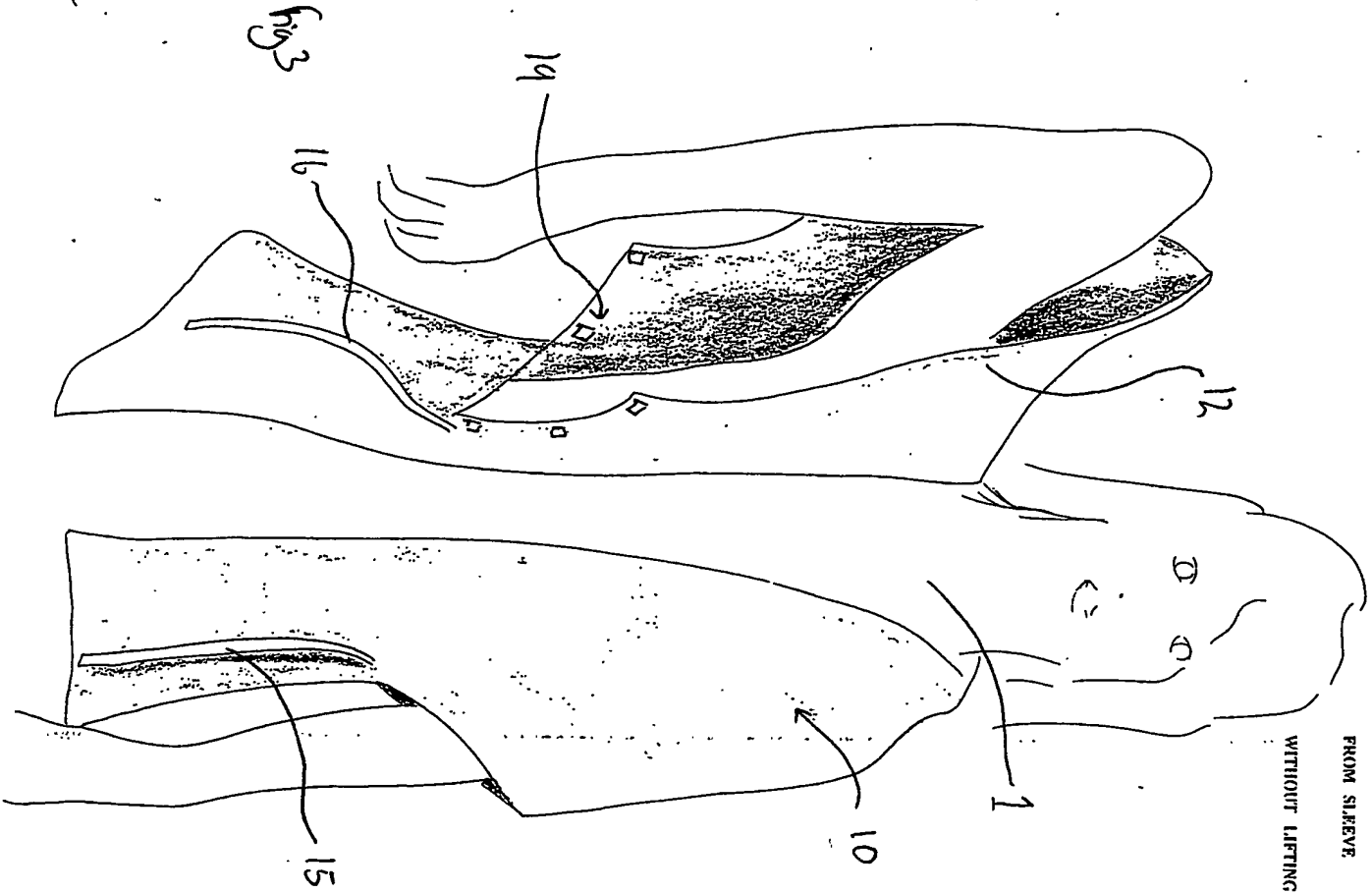
TOP RIGHT SLEEVE UNDONE TO
ENABLE ARM WITHDRAWAL



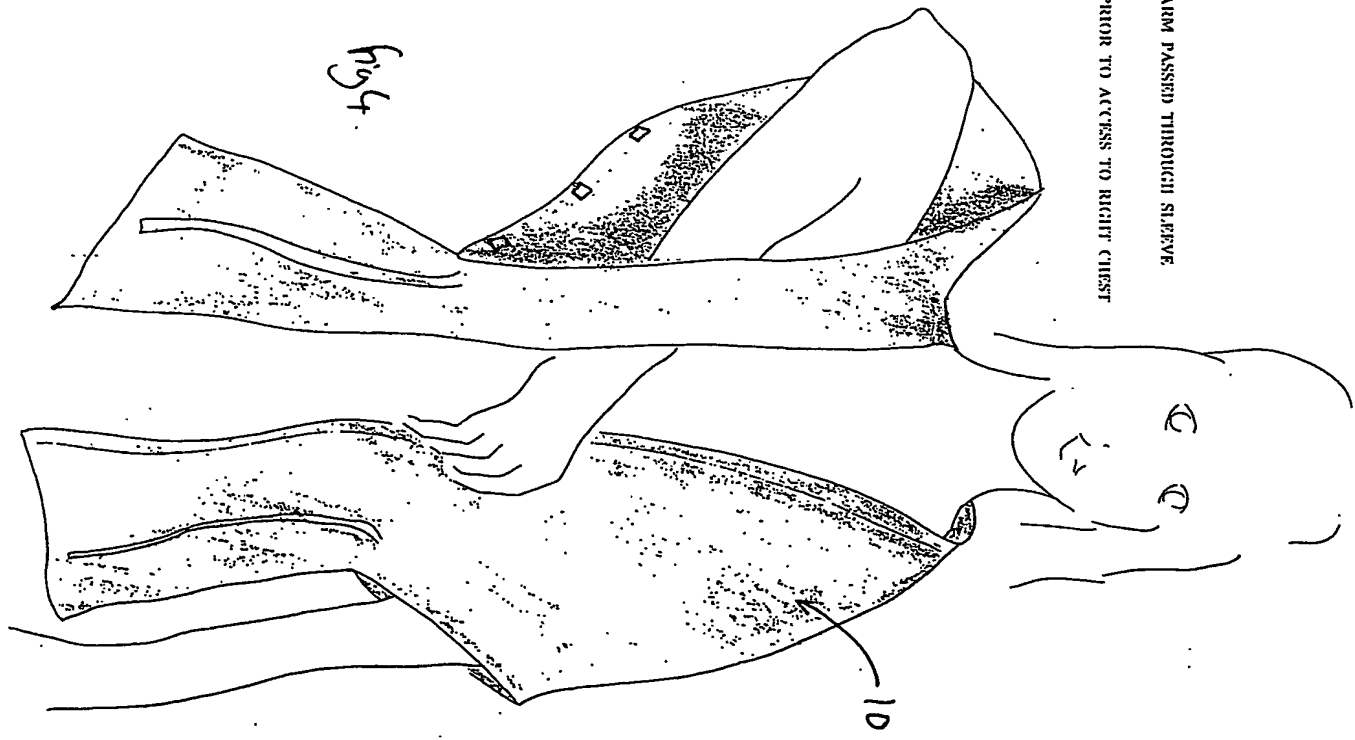
ANAESTHETISED PATIENT

ARM BEGINNING TO BE WITHDRAWN FROM SLEEVE

WITHOUT LIFTING PATIENT



ARM PASSED THROUGH SLEEVE
PRIOR TO ACCESS TO RIGHT CHEST



4/7

ANAESTHETISED PATIENT

ARM FULLY WITHDRAWN

FROM SLEEVE

WITHOUT LIFTING PATIENT

CHEST EXPOSED FOR ANAETHETIST

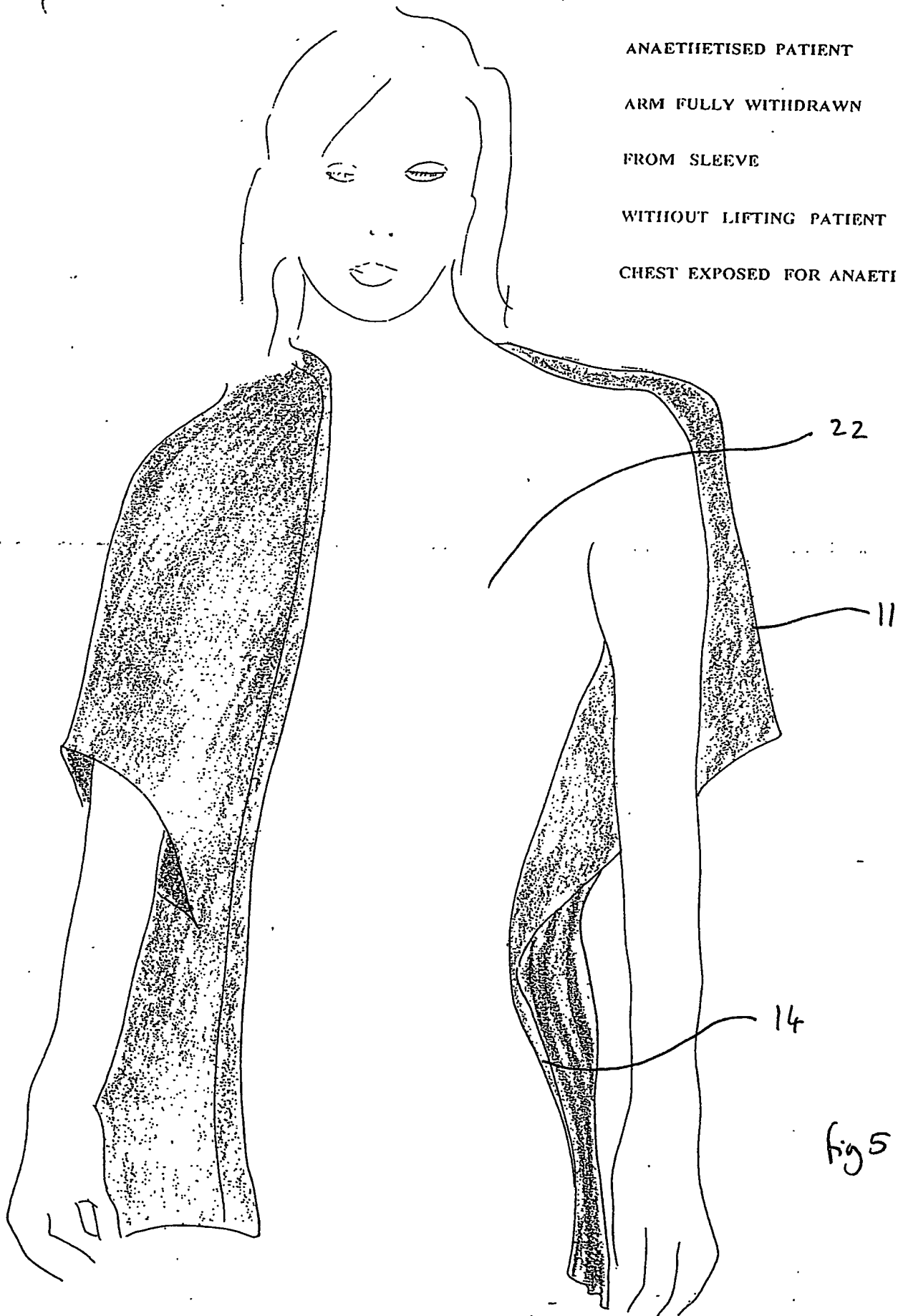


fig 5

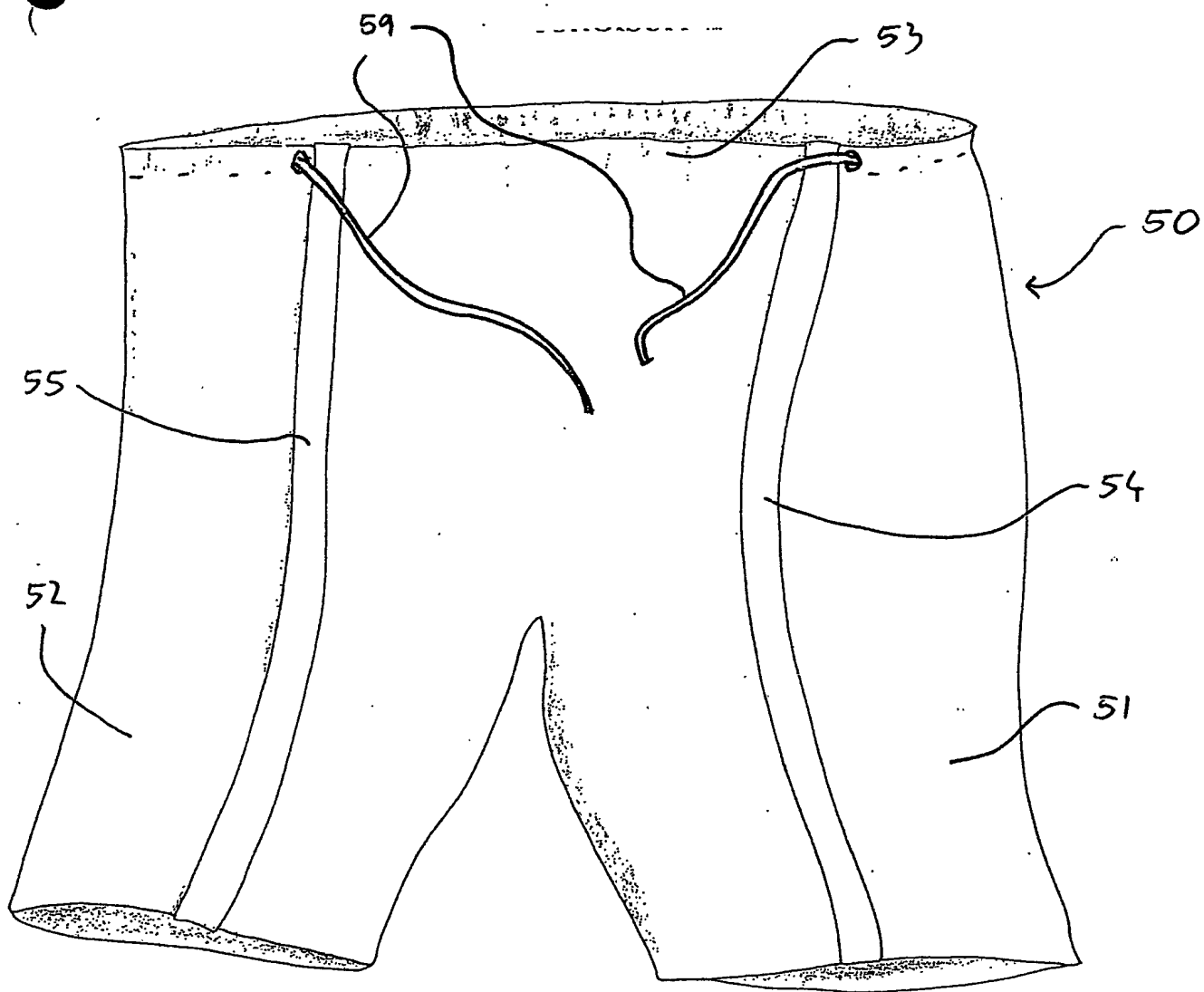
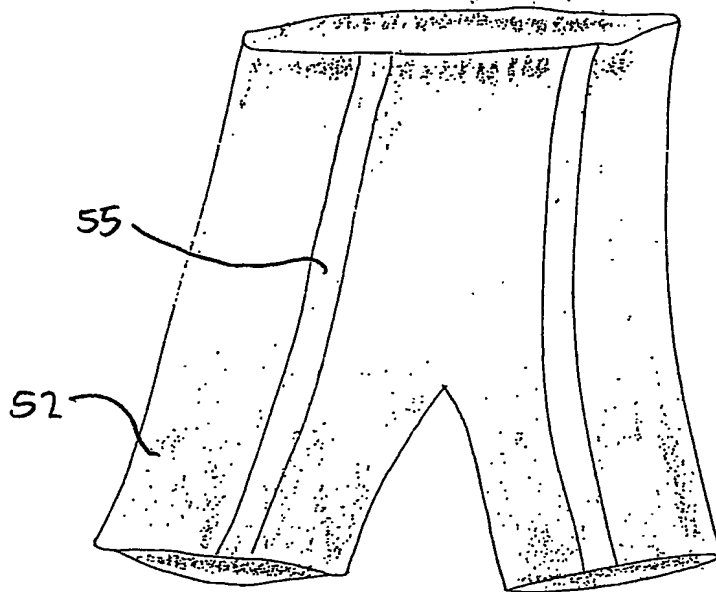


fig 6



SUGISUIT SHORTS UNDONE TO
ALLOW ACCESS TO RIGHT LEG
AND GROIN , VELCRO UNDONE

fig 7A

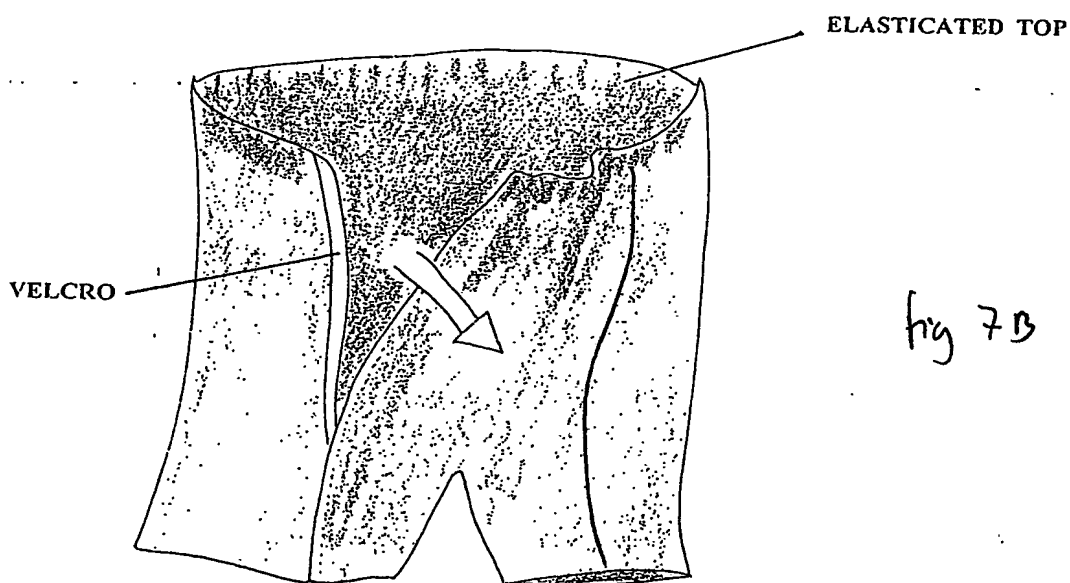


fig 7B

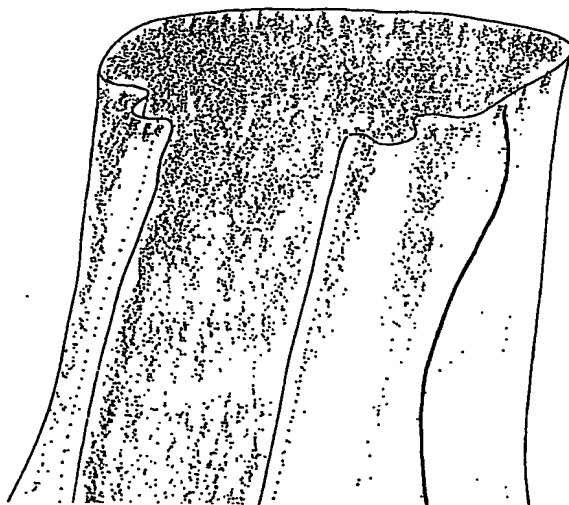
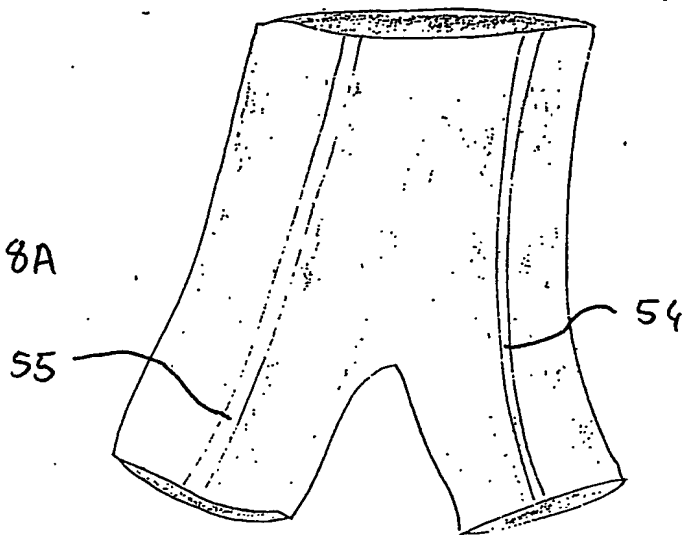


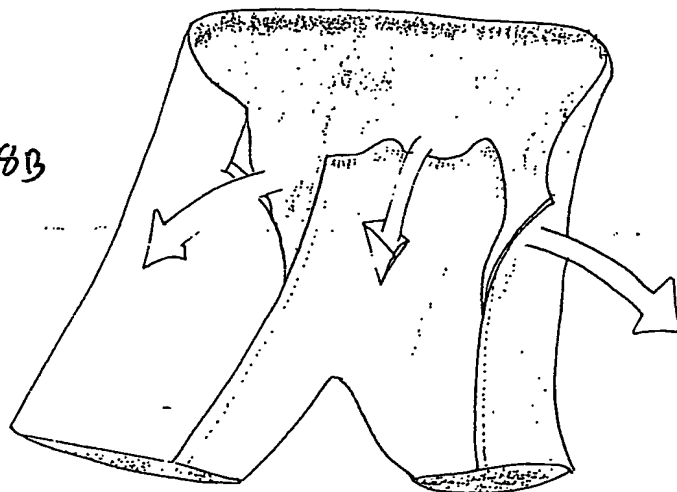
fig 7C

fig 8A



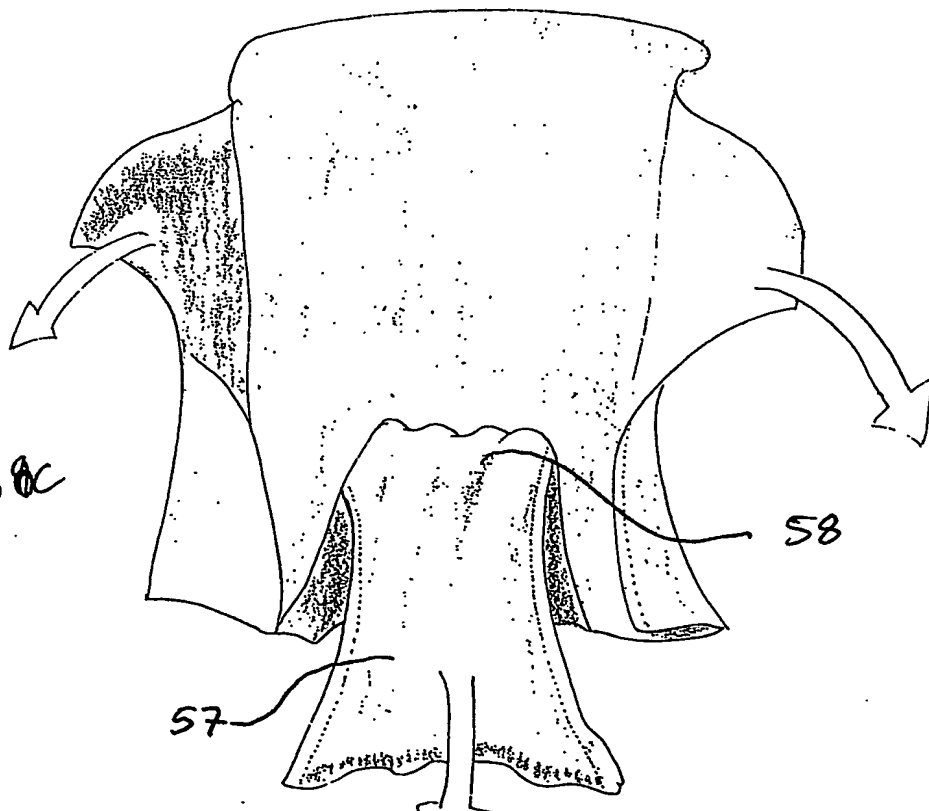
VELCRO UNDONE BOTH LEGS
FRONT FLAP LIFTED DOWN
ACCESS TO RIGHT AND LEFT
WITHOUT LIFTING PATIENT

fig 8B



ELASTICATED TOP
VELCRO

fig 8C



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